

1000 Solar Rooftops

Going Solar in the Ottawa Area

Small Business Turns 'On' The Sun

Peggy and Dick Bakker run a seasonal retail business in Manotick Station called the **Third World Bazaar**. The Ontario Feed-in Tariff offers them an opportunity to generate an income stream throughout the year and onwards into retirement. Dick was thrilled when Ontario announced in late 2009 that they would introduce a Feed-in Tariff similar to the very successful German program and applied immediately to become an electricity producer.

PROJECT SUMMARY

Capacity: 10Kw Inverter Capacity,
11.04Kw Solar Panel Capacity

Location: Manotick Station, Ontario
Orientation: Fixed 35* Inclination,
South Facing

Solar Panel Area: 80m2, (855Ft2)

Installed Cost: \$73,000

Financing Mechanism: Self Financed

Expected Payoff Period: 7years

The Ontario Feed-in Tariff pays small renewable energy producers a higher price than for large electricity generators producers because there is little or no grid development required, zero pollution is generated, the power is utilized locally and the energy is produced during the peak load demand period. There is also no taxpayer subsidy.



Third World Bazaar Products & Website: www.ThirdWorldBazaar.ca

THE THIRD WORLD BAZAAR PROJECT

The solar installation is comprised of 48 Solon 230W panels, with a peak generation capacity of 11.04kW. The system is ground mounted with a 35degree angle facing due south. The DC power from the panels are fed to two 5kW SMA inverters that convert the energy to AC format before it is presented to the Hydro One meter. As the 11.04kW solar panels are feeding 10kW of inverters there is some loss during peak production times. The offset is that during non-peak times there can be a 10% performance improvement. The racks are fixed with no moving parts: a minimal maintenance system.

The system was installed by Ottawa Solar Power and completed in four days including: Post hole digging; rack set up and panel installation; fine tuning the wiring; installing the Inverters; and, running the cable. Within one week, Hydro One reconnected the new meters over a 2 hours period. The system is effectively maintenance free. Twice a year the fans on the inverters are vacuumed. Snow slides off the panels; which have a 25 year warranty. Inverters are expected to last 15 years. The system is expected to pay for itself in 7 years, including all costs and replacement requirements.

Third World Bazaar Installation: *Ground Mounted Solar Power*



TALKING DOLLARS AND SENSE

Dick Bakker received early approval from the Feed-In-Tariff system for 80.2 cent rate for his ground mount system. Note that this rate has now been reduced to 58.6 cents/kWh. Dick opted for a slightly more expensive system at \$73,000 because he was looking at the project as a long term revenue stream. He chose more expensive panels that had a low degradation rate of less than .75% per year. Cheaper systems can have degradation rates of 1% to 1.5% per year; over a predicted 25year life this can represent a significant loss. He also chose to oversize the panels greater than the inverters by 10% to increase production in all non-peak periods, gaining a 10% improvement during 90% of the production time.

CONTACT INFORMATION

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World Bazaar.
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ADDITIONAL BENEFITS

It is an obvious fact that solar installation can only produce power during periods of sun. Less well known is the fact that sunny periods of the day happen to match peak demand times for electricity (due to air conditioning, office/factor demand, retail store use, etc.). Therefore, solar produced electricity is effectively peak load production. All the power produced by the Third World Bazaar installation is effectively consumed by the Manotick Station community, and especially the store. Most of the energy produced by this solar array is consumed by Bakker's General Store, as their air conditioners, heaters, and refrigeration units are turning into high gear in the middle of the day. Because the solar panels are so close to the store there is no line loss, and less need to draw power from across the province to Manotick Station during the peak demand time.

In Summary

The project was turned on June 24, (2010) between then and December 30, the system has produced 6803kW for the grid. Dick and Peggy now have a new regular income stream and Manotick Station has a new localized source of power. The Feed-in Tariff has provided Ontario residents with a very rare example of a public policy that enables private micro-economic benefits to match public macro-economic benefits. The Bakker's now have a retirement income stream and Manotick Station is now slightly more electrically self reliant.

QUESTIONS?

Please visit our website: www.1000solarrooftops.ca

RESOURCES AND LINKS

- Ontario Power Authority Feed-in Tariffs <http://fit.powerauthority.on.ca/>
- Documentary Movie on the benefits of localized energy production www.powerfulthemovie.com